

Rangeland Resources & Best Management Practices Review - Targhee NF

Allotments: Tom's Creek C&H Allotment **Forest/District:** Caribou-Targhee NF, Ashton/Island Park RD **Date:** 9/2/2010

Reviewers: Liz Davy (District Ranger), Heidi Heyrend (Forest Range), Brad Higginson (Hydrology), Rose Lehman (Botany), John Lott (Soils), Lee Mabey (Fisheries), Robb Mickelsen (Forest Resources), and Kyle Moore (District Range)

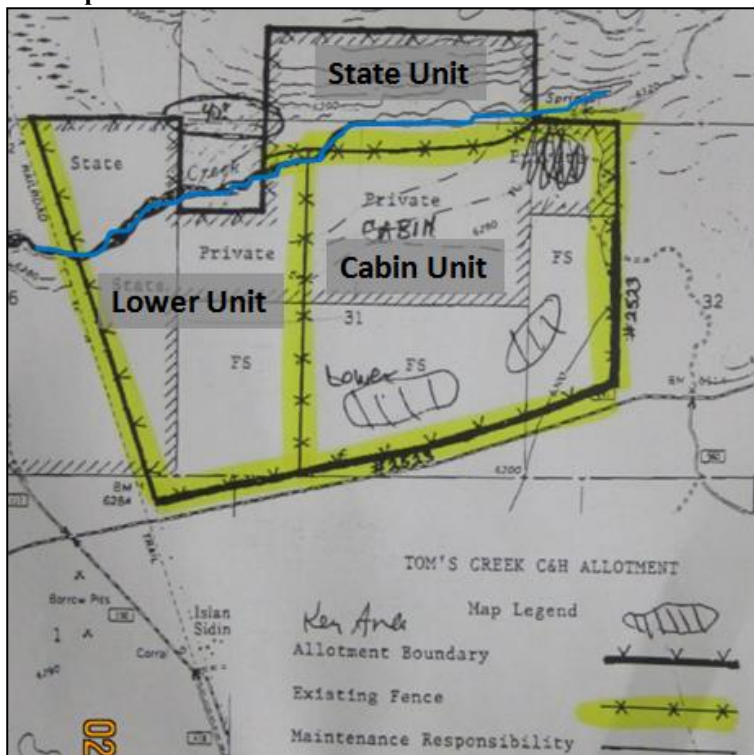
Grazing System: Rotation on three units.

Units Reviewed:	Cabin (Private & NFS Land)	On Date(s):	8/12/2010	Off Date(s)	9/14/2010
	Lower (State, Private, & NFS Land)		7/21/2010		8/11/2010
Unit not reviewed:	State (State & Private Land)		7/15/2010		7/20/2010

6TH Level Watershed: 170402020401 – Buffalo River

Streams & Stream Types Examined: Tom's Creek – C4

Figure 1: Map of Tom's Creek Allotment Units.



Geology: Outwash plains; Alluvium

Ecological Unit: 2040* - PICO Perfa – ABLA/CACA4, CACA4 Bootjack association (0-4% slopes). Moist outwash plains in the cool portion of the forested zone. Topography is nearly level to undulating stream terraces and overflow channels. The terraces have a seasonal water table and support reforesting clearcuts and closed canopy forests. The overflow channels have frequent, low intensity floods, a seasonal water table, and support riparian communities dominated by conifers, grasses and sedges.

Contrasting Inclusion (15%): Adjacent to perennial stream on the lowest stream terraces. Potential natural community: willow/grass and sedge dominated. Present vegetation = Geyer's willow/beaked sedge c.t.; Booth's willow/beaked sedge c.t., diamondleaf willow c.t.; and beaked sedge. Soils = Poorly and very poorly drained soils that have a layer of peat on the surface (Tepete and Chickcreek soils).

The Tom's Creek/Moose Creek area has a large wetland complex with sedge and riparian grass community types including fens (bog lands) that are not common at the typical ecological unit scale (Jankovsky-Jones 1996).

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Background: The Allotment is divided into three units with mixed ownership of State, Private, and National Forest System (NFS) lands (). As stated in the Toms Creek DN & FONSI (Caribou-Targhee NF 2002), “riparian areas (excluding wet meadow complexes) are found only on State and private lands.”

State and Private Lands: The State and Private lands within the allotment fall under a Term Grazing Permit with On-and-Off Provision. As such, the right to administer livestock grazing activities on “off” non-federal lands is not waived to the Forest, but the Forest specifies the season of use, numbers, and grazing area of combined “on” and “off” lands. The Permittee or State administers livestock grazing activities on “off” lands and the Forest administers livestock grazing activities on “on” lands. All of Tom’s Creek in the allotment is located on “off” lands.

Tom’s Creek Inventory: Earlier in the year (8/16/2010), a subgroup of the team (Heyrend, Higginson, Lehman, & Mabey) and Jennifer Chutz (District Wildlife Biologist), Jim De Rito (Henry’s Fork Foundation) and Scott Gillilan (consultant) examined the entire length of Tom’s Creek (spring source to the confluence with Buffalo River). The assessment included ungrazed reaches as well as portions within the Tom’s Creek, Ripley Butte, and Buffalo Allotments. The team evaluated restoration opportunities and performed a proper functioning condition (PFC) inventory on the stream corridor. Possible PFC ratings include PFC, Functioning at Risk, and Non-functioning.

The nature of Tom’s Creek is dynamic throughout its length (Gillilan 2010). From the spring source and through the upper State and private portions of this allotment, Tom’s Creek has a fine gravel bed supporting a high diversity and density of macrophytes (Photo 1). As the stream exits the upper portion of the allotment onto NFS lands the channel is bordered by a very wide and shallow flowing emergent wetland (Photo 2). In the Lower Unit, Tom’s Creek returns to a single-thread channel with a high width/depth ratio (wider & shallower), low gradient, and silt dominated channel bed with little fisheries habitat or channel diversity. This condition continues downstream through the Ripley Butte and Buffalo Allotments until it reaches an ungrazed reach near its confluence with the Buffalo River.

Photo 1. Tom’s Creek is narrow and deep in the State Unit (photo 8/16/2010).



Photo 2. Tom’s Creek is bordered by wide shallow wetlands as it exits the allotment onto unfenced NFS lands (photo 6/3/2008).



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Stream conditions appear to be a function of current grazing duration and past disturbances. Tom's Creek is in Proper Functioning Condition (PFC) within the State Unit (off lands) where livestock graze for 5 days. Tom's Creek is Functioning at Risk within the Lower Unit where the grazing duration is 22 days. The Cabin Unit only has a small water gap where livestock access the creek. Downstream in the Ripley Butte Allotment where grazing duration is approximately 44 days, Tom's Creek is in poorer condition although it is still rated as Functional at Risk (See Ripley 2005 and 2010 BMP reviews). In addition to current grazing, there are several historical influences on the lower portion of Tom's Creek. An old breached earthen dam, the historic railroad grade, and historical grazing use also play a part in the conditions found along the stream in the Lower Unit.

9/2/2010 Field Review: The group walked along Tom's Creek from the railroad grade bridge on State land upstream to the Cabin Unit. The current riparian area use standards listed in the 2010 Annual Operating Instructions are:

- 4-inch Carex stubble height along the hydric greenline (streamside);
- 3 inch Carex stubble height in the riparian area (aquatic influence zone or AIZ);
- Riparian shrub use less than 30% current year's growth.

Although Tom's Creek is on "off" lands (State and Private), it is important to note that the above standards apply to wet meadow complexes and the associated AIZ areas found on NFS lands. That said, the State Unit was estimated to be within riparian use standards for stubble heights on the 8/16/2011 field visit (post grazing period). The Lower Unit was estimated to be near or slightly below the riparian residual stubble height on the 9/2/2011 visit (Photo 3). Willows are sparse along the creek throughout the allotment. Where they do occur along the stream, woody use is greater than the riparian use criteria of less than 30%. Away from the stream, woody use is lighter than the 30% use criteria. No assessment of alteration or bank stability was completed.

Photo 3: Tom's Creek in the Lower Unit (off lands).



Photo 4: Heavy willow use along Tom's Creek.



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Photo 5: Livestock use was documented in closed area on NFS lands due to the lack of fence.



A portion of NFS land (~40-acre parcel) that is currently closed to livestock grazing is being used by cattle from the Tom's Creek Allotment (**Error! eference source not found.**). This area is the portion of Tom's Creek on NFS lands that is surrounded by the Lower Unit. There currently are no fences along the Forest boundary to keep livestock from entering this closed area. The area is also within Revised Forest Plan prescription 2.1.1: Special Management Areas because of its unique botanical resources of the spring-fed wetland complex (Jankovsky-Jones 1996).

Recommendations: Fencing work is needed to ensure allotment livestock do not graze outside of the permitted area. Install fencing to prevent livestock grazing on the closed portion (i.e. Special Management Area) of NFS lands along Tom's Creek near the Lower Unit.

The Forest completed a NEPA sufficiency analysis for the allotment later in 2010. The riparian use standards recommended for the allotment should be updated to include the values shown in (

Table 1), which are based on the Caribou Grazing Implementation Guide (GIG) and riparian use standards from the Revised Forest Plan. Although these standards technically only apply to NFS lands ("on" lands), they are also

recommended for "off" lands (State & Private). Implementation of these standards is expected to maintain the good conditions on the State Unit and improve conditions on the Lower Unit (e.g. move towards 80% bank stability and proper width/depth ratio).

Table 1: Recommended riparian use standards for the Tom's Creek Allotment.

Unit(s)	Greenline SH (in) (E/M/L)	Woody Species Utiliz. (%)	Bank Alteration	Riparian SH (in) (E/M/L)	Comments and GIG Rationale
Lower & Cabin	5/6/8	30%	10%	3/4/5	Functioning at Risk. Stream Group-08. State land.
State	4/6/6	30%	15%	3/3/4	Proper Functioning Condition. Stream Group-08. State & Private land.

SH = Stubble height: The height of standing Carex species (measured in inches) within the riparian zone.

E/M/L = Early, mid, and late season grazing. The exact dates of "early", "mid", and "late" can vary between Forests or even years. Therefore, they are not specified. For the Targhee NF, "early" is usually defined as the beginning of the growing season to mid July; "mid" season from mid July to mid August; and "late" season from mid August to the end of the growing season.

Riparian vegetation: grasses and sedges (Carex) normally associated with wet or anaerobic soil conditions.

Upland vegetation: primarily grasses normally associated with dryer soil conditions (e.g. poa & redtop).

Percent Utilization: The percent of total weight of key species within the riparian zone utilized by livestock while grazing the affected riparian area. Utilization standards apply to native and desirable nonnative key plant species as recorded at the end of the grazing period (when the livestock leave the unit/pasture).

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Use the Following Rating Guide and Definitions to Score Each Practice

Implemented	Score
Exceeds objective of practice	5
Meets objective of practice	4
Minor departure from practice	3
Major departure from practice	2
Gross neglect of practice	1

Effective	Score
Improved protection of soil and water over pre-project conditions	5
Adequate protection of soil and water	4
Minor and temporary impacts on soil and water	3
Major and temporary, or minor and prolonged impacts on soil and water	2
Major and prolonged impacts on soil and water	1

Term	Definition
Adequate	Small amount of material eroded; material does not reach ephemeral draws, intermittent and perennial streams, or wetlands
Minor	Erosion and delivery of material to ephemeral draws but not intermittent and perennial streams, or wetlands
Major	Erosion and subsequent delivery of sediment to ephemeral draws, intermittent and perennial streams, or wetlands
Temporary	Impacts expected to last one year or less or no more than one runoff season
Prolonged	Impacts expected to last more than one year or one runoff season

Targhee National Forest Revised Forest Plan Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes																								
Soils Quality/Forested Ecosystems ¹	Strive to maintain fine organic matter (FOM) over at least 50% of the area. The preference is for FOM to be undisturbed, but if disturbed, it should be of sufficient quantity and quality to avoid detrimental nutrient cycle deficits. If the soil and potential natural community are not capable of producing FOM over 50% of the area, adjust minimum amounts to reflect potential soil and vegetation capability. (G)	N/A	N/A	Did not look at forested ecosystems; grazing does not appear to be influencing FOM levels in those areas.																								
Range – Upland Forage Utilization	<div>Apply upland forage utilization levels to all allotments and/or management areas as shown below, unless determined otherwise through the IDT process. These guidelines apply to native and desirable non-native vegetation as recorded at the end of the growing season. (G)</div> <table><tr><td></td><td colspan="2">Season-Long Grazing</td><td></td><td colspan="2">Rotation Grazing</td></tr><tr><td></td><td>Unsatisfact. Range</td><td>Satisfact. Range</td><td></td><td>Unsatisfact. Range</td><td>Satisfact. Range</td></tr><tr><td>Grass Herb</td><td>35%</td><td>45%</td><td></td><td>45%</td><td>55%</td></tr><tr><td>Shrubs</td><td>25%</td><td>35%</td><td></td><td>35%</td><td>35%</td></tr></table>		Season-Long Grazing			Rotation Grazing			Unsatisfact. Range	Satisfact. Range		Unsatisfact. Range	Satisfact. Range	Grass Herb	35%	45%		45%	55%	Shrubs	25%	35%		35%	35%	4	4	The 2010 AOI identifies the standards as 55% for upland grasses and 35% for upland shrubs. It appears that upland utilizations were met across the allotment. Riparian standards in the Lower Unit appear to be the limiting factor.
	Season-Long Grazing			Rotation Grazing																								
	Unsatisfact. Range	Satisfact. Range		Unsatisfact. Range	Satisfact. Range																							
Grass Herb	35%	45%		45%	55%																							
Shrubs	25%	35%		35%	35%																							
Range - Riparian Forage Utilization - Woody Plant Utilization	Not more than 30% use on riparian woody plant species (current year’s growth) is allowed. 30% is the maximum allowed use as recorded at the end of the grazing period. (S)	3 = Off lands 3 = NFS lands closed to grazing	3 = Off lands 3 = NFS lands closed to grazing	Willows are sparse along the creek. Where they do occur along the stream, use is greater than 30%. Away from the stream, woody use is lighter than 30%. Willow use was heavy on NFS lands closed to grazing along Tom’s Creek.																								

¹ Timber related guideline. Determine if this guideline is appropriate for the allotment.

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Element	Standards and Guidelines	Implemented	Effective	Notes
Range - Riparian Forage Utilization – Riparian Vegetation Stubble Height Standard	<p>1. At the hydric green-line (HGL), there will be at least 4 inches of stubble height remaining on key species at the end of the grazing period, unless determined otherwise through the IDT process. This standard applies to key species of native and desirable non-native hydric vegetation. (S)</p> <p>2. Away from the HGL, at least 3 inches of stubble height will be left on the remainder of the key riparian species at the end of the grazing period, unless determined otherwise through the IDT process. (S)</p>	<p>4 – State Unit (off lands)</p> <p>3- Lower Unit (off lands)</p> <p>3 – NFS lands closed to grazing</p>	<p>4 – State Unit (off lands)</p> <p>3- Lower Unit (off lands)</p> <p>3 – NFS lands closed to grazing</p>	<p>Off lands: standard does not apply. Stubble height was not measured. However, the lower unit appeared to be at or slightly below the riparian area stubble height recommendation of 3 inches. Revised riparian use standards are recommended for this allotment (see page 4).</p> <p>Use was also documented on NFS lands closed to livestock grazing.</p>
Range – Allotment Management Planning (AMP)	Salt should be placed greater than a ¼ mile from water, or as far from water as practicable. Salting should be designed to avoid conflicts with aspen regeneration, conifer plantations, and system trails. (G)	4	4	The team did not observe any salt locations
Range – (AMP)	Allow no livestock grazing before seed set of the second growing season after prescribe or natural fires and rangeland planting or seeding. (G)	N/A	N/A	
Range – (AMP)	Permittees are allowed motorized access to maintain facilities. AMPs and AOIs will include direction that motorized access must be less than 2 vehicles per week (This permitted access is not included in the OROMTRD). (S)	4	4	Did not observe any problems due to motorized use.
Range – (AMP) and Fisheries & Other Aquatic Resources	<p>Within subwatersheds occupied by native cutthroat trout or designated as vital to meeting recovery goals, identify areas where livestock grazing is causing fisheries habitat conditions to fall below or retard the rate of recovery toward the values described in the “Expected values for healthy fish habitat conditions” (listed below). Include specific remedial actions in the AMP or AOI. Progress toward meeting these expected values should be monitored and grazing systems adjusted, as necessary. (G)</p> <p>Expected Values for Healthy Fish Habitat Conditions:</p> <ul style="list-style-type: none"> • Pool frequency – at least 1 pool per length of stream equal to 5-7 times the channel width. • Water Temp. – 13° C or less with a max daily average no greater than 9 in spawning habitats or 16° C with a max daily average no greater than 12 in adult holding habitats. • LWD – Greater than 20 pieces/mile. • Bank stability – Greater than 80% <p>Lower bank angle (non-forested systems) – Greater than 75% of banks with less than 90° angle.</p> <p>Width/depth ratio – suitable for Rosgen stream type.</p>	<p>4 – State Unit (off lands)</p> <p>3- Lower Unit (off lands)</p> <p>3 – NFS lands closed to grazing</p>	<p>4 – State Unit (off lands)</p> <p>3- Lower Unit (off lands)</p> <p>3 – NFS lands closed to grazing</p>	<p>This is not technically a cutthroat watershed or a RFP Native Trout Watershed. However, it is very important as a spawning and rearing stream to the Henry’s Fork, which is a blue ribbon trout stream of high economic value. Fisheries habitat/resources are a high concern.</p> <p>Off lands: desired conditions not administered by Forest.</p> <p>Use was also documented on NFS lands closed to livestock grazing.</p> <p>Annual use and long term trend indicators were not measured. Stream conditions within the State Unit appear to be at or above desired conditions. Stream conditions in the Lower Unit appear to be below desired conditions for width/depth ratio. Revised riparian use levels are recommended to (see page 4):</p> <ol style="list-style-type: none"> 1. Maintain good conditions in the State Unit. 2. Move towards desired conditions in the Lower Unit.

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Element	Standards and Guidelines	Implemented	Effective	Notes
Aquatic Influence Zone (AIZ) – Range	Incorporate into AMPs, objectives for attainment of desired vegetation conditions for riparian plant community seral stage development and stream channel condition. (G)	N/A	N/A	Tom's Creek is located on the "off lands" of this allotment (i.e. not administered by the Forest). A NEPA sufficiency analysis was completed in 2010.
Aquatic Influence Zone (AIZ) – Range	Proposed livestock watering facilities, corrals, and holding pastures within these lands are allowed only if appropriate mitigation measures are implemented to reduce negative effects. (S) Existing livestock watering facilities, corrals, and holding pastures within these lands are allowed at permit issuance only if mitigation measures are implemented to reduce negative effects. (G)	N/A	N/A	

Measures from 2010 Annual Operating Instructions not Included in Revise Forest Plan Direction

Measure	Implemented	Effective	Notes
Unsatisfactory conditions will occur when: A. Sequence of use for each unit is not followed.	4	4	
B. Grazing use occurs in closed areas.	3	3	Livestock grazing occurred in closed areas. Fencing is recommended to limit this.
C. Specified dates are not followed unless modified by actual use conditions or a Forest Officer.	4	4	
D. Complete livestock removal is not attained by the end of a specified season of use.	4	4	
Maintenance of Improvements A. Improvement maintenance is assigned... B. All fences and water developments will be maintained to Forest Service standards annually prior to the time the improvement is needed to serve its intended purpose. This includes the needs of adjoining allotments with respect to allotment boundary fence maintenance. C. Unsatisfactory condition will occur when: 1. Fences and spring developments do not serve the intended purpose or maintenance does not meet Forest Service standards. 2. Livestock are outside the permitted area or in the wrong grazing unit due to down fences.	4	4	Livestock grazing occurred in closed areas, but there currently is no fence to prevent that. Future fencing is recommended to limit this.

References

Gillilan, S.E. 2010. Preliminary Observations On and Restoration Options for Tom's, Fish, and Thurmond Spring Creek's, Island Park, ID. September 3, 2010.

Jankovsky-Jones, Mabel. Conservation Strategy for Henry's Fork Basin Wetlands. Idaho Department of Fish and Game. Boise, ID. Available online: http://fishandgame.idaho.gov/cms/tech/CDC/ecology/wetland_pubs.cfm